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January 15,1976
SUPERSEDING
FAA-E-2312 dtd 9/28/67 &
AMEND.-1 dtd 4/20/71

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
SPECIFICATION

CONSOLE, TRACON/RAPCON MODULAR

1. SCOPE.

1.1 Scope.- This specification covers the requirements for the fabrication of the TRACON (Terminal Radar Control)/RAPCON (Radar Approach Control) Modular Console. The Modular Console, hereinafter referred to as "console," consists of the following: separator post; overhead instrument consoles; flight data console; coordinator instrument console; supervisor instrument console; related console and separator post shelves; indicator dolly; stripholder display unit; and associated equipment. These units will be assembled in configuration similar to that shown on Drawing D-6064-1.

2. APPLICABLE DOCUMENTS

2.1 FAA standard.- The following FAA standard, of the issue specified in the invitation for bids or request for proposals, forms a part of this specification.

FAA-STD-001	Color and Texture of Finishes of National Airspace System Equipment

2.2 Military and Federal publications.- The following Military and Federal publications, of the issues in effect on the date of the invitation for bids or request for proposals, form a part of this specification and are applicable to the extent specified herein.

2.2.1 Military specifications

MIL-A-22010	Adhesive, Solvent Type, Polyvinylchloride
MIL-A-5092	Adhesive, Rubber Base, General Purpose
MIL-F-19207/8B	Fuseholders, Extractor Post Type, Blown Fuse Indicating, Types FHL17G1 and FHL17G2
MIL-T-55164/2A	Terminal Boards, Molded, Barrier, Screw Type, Class 38TB

2.2.2 Military standard

MIL-STD-129	Marking for shipment and Storage

2.2.3 Federal specifications

QQ-S-741	Steel, Carbon: Structural Shapes, Plates, and Bars
QQ-S-608	Steel, Sheet and Strip, Low Carbon
QQ-A250/11d	Aluminum Alloy 6061, Plate and Sheet
L-P-510	Plastic Sheet, Polyvinylchloride, Rigid, Hight Impact
L-P-535a	Plastic Sheet, Sheeting and Film
L-P-410	Plastic, Polyamide (Nylon), Rigid: Rods, Tubes, Flats, Molded and Cost Parts
TT-E-527	Enamel, Alkyd, Lusterless
QQ-P-416	Plating, Cadmium (Electrodeposited)

2.2.4 Federal standard

Fed-Std-102	Preservation, Packaging and Packing Levels

2.3 Other publications.- The following publications of the issues in effect on the date of the invitation for bids or request for proposals, forms a part of this specification.

2.3.1 National Fire Protection Association (NFPA) Publication

NFPA No. 70	National Electrical Code

2.3.2 American Welding Society (AWS) Publication

D1. 0-63	Code for Welding in Building Construction

(Copies of this specification and applicable FAA standard may be obtained from the Contracting Officer in the Federal Aviation Administration Office issuing the invitation for bids or request for proposals. Requests should fully identify material desired, i.e., specification, and standard, numbers and dates. Requests should cite the invitation for bids, request for proposals, or the contract involved or other use to be made of the requested material.)

(Information on obtaining copies of Federal specifications and standard may be obtained from General Services Administration Offices in Washington, D.C., Seattle, San Francisco, Denver, Kansas City, Missouri, Chicago, Atlanta, New York, Boston, Dallas, and Los Angeles.)

(Single copies of Military specifications and standard may be obtained from Federal Aviation Administration, Washington, D.C. 20590, Attn: Contracting Officer. Requests should cite the invitation for bids, request for proposals, or contract for which the material is needed. Mail requests, if found acceptable, will be forwarded to a Military supply depot for filling; hence, ample time should be allowed.)

(Information on obtaining copies of the National Electric Code may be obtained from the National Fire Protection Association, 60 Batterymarch Street, Boston, Massachusetts 02110.)

(Information on obtaining copies of the code for Welding in Building Construction may be obtained from American Welding Society, 33 West 39 Street, New York, New York 10018.)

3. REQUIREMENTS

3.1 General.- The design and fabrication of the console modules shall be as shown on attached Drawings D-6064-1 thru 14 and as specified herein. The components of the console shall be constructed of steel, unless noted otherwise. The framework shall be shop welded in accordance with American Welding Society Standard Code D1. 0-63. All joints and welds, not hidden from view, shall be ground or filed smooth. All steel used, including sheeting and structural shall be the gauge as specified on the drawings and shall be hot or cold rolled, stretcher-leveled, full pickled and oiled and free from imperfections. All units shall be fabricated so that they may be bolted together side by side as shown on Drawing D-6064-1 to form a continuous row with side openings between them to permit wiring between individual frames. All exposed electrical connections (terminal strips, etc.) shall be adequately shielded for protection against electrical shock hazards. Provision shall be made for bolting each console to the floor. The joining of all members and the type of construction furnished shall result in compact units of sufficient strength to prevent distortion, breakage, or loosening of any part of the units during normal usage.

Hinged doors shall be provided where shown on the drawings. The doors shall be flush mounted, braced to prevent door sag and shall be complete with hinges, handles, and door catches.

3.1.1 Structural fabrication details not shown.- Design and fabrication of members and connections for any portion of the structure not indicated on the design drawings shall be completed by the fabricator and indicated on the shop drawings.

3.1.2 Substitutions.- Shop drawings showing substitutions of sections, modifications of details, or materials, or any combination thereof, and the reasons therefore shall be submitted to the Contracting Officer for approval. Approved substitutions, modifications and necessary changes in related portions of the work shall be coordinated by the contractor and shall be accomplished at no additional cost to the Government.

3.1.3 Verification and responsibility for errors.- The contractor shall, prior to fabrication, verify all design detail dimensions, clearances, fit, tolerances, and suggested design detail methods and identify any discrepancy that may prevent fulfilling the contractural requirements of this specification. The contractor shall be responsible for the correct fit and assembly of the console modules.

3.2. Console modules (structural) requirements.- The console modules as shown on appropriate drawings shall include, but not necessarily be limited to the materials shown and noted for their fabrication. The console consists of the following modules:

Separator Post (SP-1)
Separator Post Panel (SPP-1)
Overhead Instrument Consoles (OIC-1, OIC-2 and OIC-3)
Flight Data Console (FDC-1)
Coordinator Instrument Console (CIC-1)
Supervisor Instrument Console (SIC-1)
Separator Post Shelf (SPS-1)
Flight Data Console Shelf (FDCS-1)
PAR Console Shelf (PCS-1)
Indicator Dolly (ID-1 and ID-2)
Stripholder Display Unit (SDU-1)

Where applicable the shelves listed below are to be used in lieu of the SPS-1 and FDCS-1.

Separator Post Shelf (SPS-2)
Flight Data Console Shelf (FDCS-2)

3.2.1 Separator Post (SP-1) and Separator Post Panel (SPP-1).- SP-1 shall be fabricated and assembled as shown on Drawing D-6064-2. The welded connections of this module shall develop the joint strength required to support a 200 pound total load concentrated in a normal position at the center of the Separator Post Shelf (SPS-1) or (SPS-2) when assembled to SP-1, and a uniform gravity load of 50 pounds per square foot applied to the equipment panels in console operating position as supported by SP-1. Polyvinylchloride (PVC) dielectric side panels are to be fastened to the structural framing of SP-1 with molded polyamide dielectric screws. The top half of each SP-1 shall be left open to facilitate field wiring and heat dissipation when assembled in-line with adjoining modules. All panels and panel fastening details shall be as depicted on Drawing D-6064-2. Provisions for anchoring SP-1 to the floor shall be as shown.

3.2.2 Overhead Instrument Consoles (OIC-1, OIC-2, and OIC-3).- OIC-1, OIC-2 and OIC-3 shall be fabricated and assembled as shown on Drawing D-6064-3. The welded and bolted connections of this module shall develop the joint strength required to support a uniform gravity load of 50 pounds per square foot applied to the equipment panels in console operating position. PVC dielectric bottom panels are to be fastened to the structural framing of OIC-1 and OIC-3 with molded polyamide dielectric screws. The sides of each OIC shall be left open to facilitate field wiring and heat dissipation when assembled in-line with adjoining modules. Projector light and housing shall be assembled on top panel as depicted on Drawing D-6064-10. A 16 inch wide by 24 inch long electroluminiescent (EL) panel shall be furnished for mounting on the upper front panel of the OIC-1 and OIC-3 as depicted on Drawings D-6064-3 and D-6064-11. Projector light housing with supports shall be included.

3.2.3 Flight Data Console (FDC-1).- FDC-1 shall be fabricated as shown on Drawing D-6064-4. The welded and bolted connections of this module shall develop the same joint strength as required for the fabrication of SP-1, OIC-1 and OIC-2. The module shall be self-supporting and paneled on all sides except the bottom. Projector light and housing to be assembled on top panel as depicted on Drawing D-6064-10. Provisions for anchoring console to the floor shall be as shown.

3.2.4 Coordinator Instrument Console (CIC-1).- CIC-1 shall be fabricated and assembled as shown on Drawing D-6064-5. The welded and bolted connections of this module shall develop the joint strength required to sustain a uniform gravity load of 50 pounds per square foot applied to the equipment panel in console operating position. Light access maintenance and housing removal hatch openings shall be provided on CIC-1 top and bottom panels as shown. No panel is required on bottom portion of CIC-1 that mounts over in-line support modules. Soft rubber angle bumper shall be installed as shown on drawing for rapid removal when required for maintenance of equipment mounted on CIC-1 equipment panel.

3.2.5 Supervisor Instrument Console (SIC-1).- SIC-1 shall be fabricated and assembled as shown on Drawing D-6064-6. The welded connections of this module shall develop the joint strength required to sustain a uniform gravity load of 50 pounds per square foot applied to the aluminum equipment panel. Rapid swing down capability of the equipment panel shall be provided by top mounted quarter turn fasteners, CAMLOC stud assembly, Part No. 2658-10, or equal. One-eigth (1/8) inch thick, red, cloth finish rubber (Durometer 60) shall be bonded around bottom periphery of SIC-1 as shown.

3.2.6 Separator Post Shelf (SPS-1) and Flight Data Console Shelf (FDCS-1).- SPS-1 and FDCS-1 shall be fabricated and assembled as shown on Drawings D-6064-7 and D-6064-8 respectively. The welded connections of these shelf modules shall develop the joint strength required to support a 200 pound total load concentrated in a normal position at the center of the shelf with a deflection of no more than one-eighth (1/8) inch at the edge of the shelf when assembled to SP-1 and FDC-1. SPS-1 shall be fabricated with a recessed telephone jack adaptor support as delineated on the drawing. One-eighth (1/8) inch thick, red, cloth finish rubber (Durometer 60) writing surface shall be bonded to the top panel of each shelf as shown.

3.2.6.1 Separator Post Shelf (SPS-2) and Flight Data Console Shelf (FDCS-2).- The SPS-2 and FDCS-2 shall be fabricated and assembled as shown on Drawing D-6064-12. The welded connections of these shelf modules shall develop the joint strength required to support a 200 pound total load concentrated in a normal position at the center of the shelf with a deflection of no more than one-eighth (1/8) inch at the edge of the shelf when assembled to SP-1 and FDC-1. The SPS-2 shall be fabricated with two recessed telephone jack adaptor supports and cover plate as delineated on the drawing. The writing surface as per paragraph 3.4 shall be bonded to the top panel of each shelf as shown.

3.2.7 PAR Console Shelf (PCS-1).- PCS-1 shall be fabricated and assembled as shown on Drawing D-6064-7: Shelf module strength and deflection shall be the same as stated in Paragraph 3.2.6. The writing surface shall be the same as applied to SPS-1 and FDCS-1.

3.2.8 Indicator Dolly (ID-1 and ID-2).- ID-1 and ID-2 shall be fabricated as shown on Drawings D-6064-13 and D-6064-14, respectively. Welded connections of ID-1 and ID-2 shall develop the joint strength required to support a load of 100 pounds per lineal foot distributed on the equipment seat angles (L 5 x 3 x 1/4) of the dollies. The caster swivel radius shall clear the adjacent structural assembly of the dollies.

3.2.9 Stripholder Display Unit (SDU-1).- SDU-1 shall be fabricated and assembled as shown on Drawing D-6064-9.

3.3 Materials.

3.3.1 Structural steel.- Structural steel shall be as specified by Federal Specifications QQ-S-741, Grade A.

3.3.2 Sheet aluminum panels.- Sheet aluminum panels shall conform to Federal Specification QQ-A-250/11d.

3.3.3 Sheet plastic panels and bars.- Sheet plastic dielectric panels and plastic bars shall be high impact polyvinylchloride composition in accordance with Federal Specification L-P-510. Clear, transparent plastic envelopes shall be in accordance with Federal Specification L-P-535a, Composition B, Type II, Grade C.

3.4 Miscellaneous rubber items.- Writing surfaces and gaskets shall be red, cloth finish, medium soft rubber (Durometer 60) as manufactured by H. K. Porter, Inc. or equal. Angle bumpers shall be medium soft rubber (Durometer 60) as manufactured by India Rubber Co., or equal. The SDU-1 bumper as shown on Drawing D-6064-9 shall be Navy Gum Rubber, Tan in color (Durometer 60).

3.5 Special hardware.- Door pawl latches shall be the adjustable compression model as manufactured by Southco Division, or equal. Continuous door hinges shall be No. 311: Stanley, or equal. Projector light housing latches shall be CAMLOC Part No. 31L1-1-1AA, or equal. Indicator dolly swivel screw clamp assemblies with toggle shoes shall be as supplied by Reid Tool Supply Co., Catalog No. TA-582, or equal. PAR Console shelf knurl head screws shall be as furnished by Reid Tool Supply Co., Catalog No. KHS-28, or equal.

3.6 Adhesive.- Adhesive for bonding rubber writing surfaces and gaskets to painted metallic assemblies shall be general purpose rubber base type as specified by Military Specification MIL-A-5092. Adhesive for bonding PVC surfaces together shall be polyvinylchloride (solvent type) as specified by Military Specification MIL-A-22010.

3.7 Fasteners.- Plastic screws shall be molded polyamide (nylon) composition fabricated in accordance with Federal Specification L-P-410. CAMLOC Stud Assemblies, or equal, shall be used in fabrication as shown. Sheet metal and self-tapping screws, shall not be used.

3.8 Fabrication and erection.

3.8.1 Shop assemblies.- All fabrication of the console module assemblies shall be in accordance with the best commerical standards and practices. All members shall be true and free from twists and bends, and assembled work shall be free from open joints. The mitered bearing joints delineated on figures shall be provided. All work shall be formed, cut, drilled, tapped, welded, fitted, assembled or otherwise fabricated in the shop, ready for erection.

3.8.2 Shop tolerances.- All work point to work point dimensions are to be held to a lineal tolerance plus or minus one thirty-second ($\pm$ 1/32) of an inch or plus or minus one-sixteenth ($\pm$ 1/16) of an inch as noted on the drawings. Angular tolerance is to plus or minus one-sixteenth ($\pm$ 1/16) of an inch rise to twelve (12) inch run or approximately plus or minus one-half ($\pm$ 1/2) of a degree of circular measure. Tolerances shall be noncumulative.

3.8.3 Field connections.- All field connections shall be bolted or screwed as delineated on figures. All necessary bolts, nuts, washers and screws shall be furnished plus an extra ten percent of the No. 8-32 screws, of the length as specified per drawings.

3.9 Finish and color.- All metallic and plastic surfaces, except special exposed hardware (CAMLOC fasteners and pawl latches) and transparent envelopes, shall be painted as follows: The color and gloss of equipment finish shall conform to Federal Aviation Administration Standard FAA-STD-001. The finish to be applied shall be a hard lustreless alkyd baked enamel having a smooth matte texture. The surface preparation, application of primer and enamel, including baking procedures, shall be such that the finished surface shall meet the water resistance, hydrocarbon resistance and polish resistance test procedures specified in Federal Specification TT-E-527. Cadmium plating of CAMLOC fasteners, latches and Southco Division pawl latches shall be accomplished in

accordance with Federal Specification QQ-P-416, Type II, Class 3. Continuous hinge No. 311 Stanley or equal shall be steel with steel pin and all exposed surfaces shall be finished same as console modules. The surface of the Stripholder Display Unit, as indicated on Drawing D-6064-9, shall be primed with DuPont "Teflon" No. 850-201 and finished with DuPont "Teflon" Bisquit Color Enamel No. 851-208.

3.10 Electrical requirements.- All wiring and electrical equipment shall be installed and inspected in conformance with the National Electrical Code.

3.10.1 Convenience outlets.- Duplex receptacles of the three wire grounding type shall be furnished and installed complete with standard outlet boxes at the front and rear of each SP-1 as shown on drawings.

3.10.2 Plug strip.- A plug outlet strip with four receptacles on three inch centers, with closed base and ends, (Wiremold No. 20G103 or equal) shall be furnished and installed in each SP-1 as shown on drawings.

3.10.3 Junction box.- A junction box, 4-11/16 inches square, (Steel City No. 72172 or equal) with cover, shall be furnished and installed in each SP-1 as shown on drawings.

3.10.4 Step light fixture.- A recessed step light fixture, (Prescolite Model ALF-4 or equal) complete with F4T5/CW tube, shall be furnished and installed in each SP-1 as shown on drawings.

3.10.5 Wiring.- Wiring sizes and routing shall be as shown on drawings.

3.10.6 Dimmer controls.- One (1) dimmer control for the projector light, (Hunt Model PC-6-1 or equal) shall be furnished by the contractor (to be installed by others) for each OIC-1, OIC-2, OIC-3, and FDC-1. One (1) 12.5 watt, 5000 ohm wire wound potentiometer with a linear taper shall be furnished for control of the (EL) panel.

3.10.7 Projector light fixture.- A projector type light fixture (Halo Model No. SP-1032 or equal) complete with a 100 watt, 100G 16 1/2 /29 DC lamp, and all necessary installation hardware shall be furnished with each OIC-1, OIC-2 and FDC-1 as shown on drawings.

3.10.8 Electroluminescent panel.- A 16 inches by 24 inches electroluminescent (EL) panel (Tau Electronic Products, Inc., Ceramac Electroluminescent Display or equal) shall be assembled for mounting on the upper fron panel of the OIC-1 as shown on Drawings D-6064-3 and D-6064-11.

3.10.9 Miscellaneous electrical.- The contractor shall furnish, install and wire the following: an isolation transformer (Triad Model No. N-51X or equal) a ten terminal barrier strip (Type 38TB10 per MIL-T-55164/2A with marker strip CINCH-JONES 364-11-10-010 or equivalent) and two (2) fuse holders (Type FHL 17G1, SPEC MIL-F-19207/8) with one each 0.1 amp for OIC-1 and OIC-3 only and 1-1/2 amp fuses in each OIC-1, OIC-2, OIC-3 and FDC-1 as shown on Drawing D-6064-6.

3.11 Identification markings.- The console modules, subassemblies and related parts shall be erection marked as follows: All steel except hardware, shall be marked prior to painting with steel stencils or identified after painting by means of stamped or stenciled marks to have a height of not less than 5/8 inch. The marks shall correspond with the marks on the erection diagram (assembly drawings). In addition, each complete console and mounting part shall be permanently and legibly marked in an inconspicuous location not normally visible, with the identification symbol as shown on the respective figures.

3.12 Special tools.- The console equipment fabrication and erection procedure shall be such as to eliminate the requirement for special tools for erection at the final destination.

3.13 Workmanship.- Completed work shall present a finish appearance, with all corners accurately mitered and all joints and intersections made in true planes, tightly fitted and drawn up tight with bolts and screws as required. The console shall be free from damage, mars, tool marks, scratches and other surface blemishes. Provisions shall be made to assure ease of alignment of adjacent subassemblies; such as all desk shelves at the same height and all console slopes identical so that the completely assembled console modules will conform in alignment.

3.14 Drawings.- The contractor, prior to any fabrication or production except, at his own risk, shall submit to the procurement activity for preliminary approval shop drawings and erection procedures for the production units submitted and inspected. Final approval shall be made at the time of inspection of the production units. All drawings shall become the property of the Government.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection and testing.- The contractor is responsible for the performance of all inspection and testing, utilizing test and inspection facilities acceptable to the Government. The contractor shall maintain complete certified test data results available to the Government as specified in the contract. The tests shall be witnessed by an FAA inspector; however, the Government reserves the right to waive this inspection. The Government reserves the right to perform any of the inspection and testing when deemed necessary to assure that the equipment conform to prescribed requirements. The equipment will not be accepted by the Government until all test data, certified to be true and correct by a properly authorized offical of the contractor's firm has been submitted to, and approved by the Contracting Officer.

4.2 Prototype erection, inspection and approval.- The contractor shall erect at his plant one prototype of the console modules as depicted by the "Typical Assembly" of Drawing D-6064-1. When the contractor has a prototype completely fabricated and ready for assembly in accordance with all specification requirements, he shall notify the Contracting Officer that he is ready for Government inspection. Such notification shall be given in time to reach the Contracting Officer at least (10) ten working days before the contractor desires inspection to start.

A one-time type inspection (may be performed concurrently with erection of console modules for approval) shall be conducted in accordance with the following subparagraphs. In the event of noncompliance with the requirements of this specification, the Government may request inspection of more than one "Typical Assembly," and the contractor shall so comply. The one-time type inspection shall include witnessing of console module assembly by the Contracting Officer or his authorized representatives.

Upon completion of the inspection and approval by the Contracting Officer, the console modules shall be dismantled and prepared for shipment.

4.2.1 Dimensions.- All dimensions of all console equipment shall be inspected for compliance with specified dimensional and angular tolerances.

4.2.2 Rigidity.- The assembled console modules shall be anchor bolted to a fixed base and loaded as specified herein, including dollies, to demonstrate the effectiveness of the assembled modules and related fabrication techniques in providing structural strength resistance to the induced test load stresses.

4.2.3 Equipment panel removal and replacement.- The assembled console modules shall be inspected to insure snug fit of equipment panels, closure panels, and miscellaneous equipment accessories. The modules shall also be inspected for ease of removal for maintenance and replacement.

4.2.4 Doors and latches.- The doors shall be inspected to determine rigidity, ease and smoothness of operation, and fit with respect to the door header, jambs, and threshold. The operation of the door pawl latches shall be inspected for positive locking and closure tightness.

4.2.5 Accessory wiring.- Wiring of projector and step lights, junction boxes, convenience and plug strip outlets, fuse holders, terminal boards and isolation transformers shall be inspected for conformance with the National Electrical Code.

4.3 Production inspection and testing.- All console modules and accessories thereto shall be subjected to the inspection and tests as follows.

4.3.1 Welds inspection.- The general appearance, number and location of welds shall be observed for compliance with the AWS welding code and as shown on the attached drawings.

4.3.2 Materials.- The materials used in the fabrication of the consoles shall be tested for conformance to the requirements of the specifications referenced in Paragraphs 3.3 thru 3.7 when so requested by the Government inspector.

4.3.3 Alignment.- A test shall be made on each console module to insure the alignment of the studs or holes of one module with the mating holes of the adjoining or connecting module(s).

4.3.4 Trueness and fit.- The subassemblies of the console modules shall be inspected for compliance with the requirements specified in Paragraphs 3.8.1 thru 3.8.3.

4.3.5 Finish.- Inspection shall be made to insure conformance to the requirements of Paragraph 3.9.

4.3.6 Electrical.- Inspection shall be made to determine conformance with the requirements of Paragraph 3.10 and the Subparagraphs 3.10.1 thru 3.10.9.

5. PREPARATION FOR DELIVERY

5.1 Unit packaging.- The following modules shall be packaged separately in the assembled position: SP-1, CIC-1, SIC-1, SPS-1, FDCS-1, PCS-1, ID-1, ID-2, and SDU-1; the unit package of OIC-1, OIC-2, OIC-3 and FDC-1 shall be packaged unassembled.

The projector light fixture, step light tube, dimmers, and potentimeters shall be packaged separetely for shipment with their respective modules.

5.2 Packing.- The level of packing shall be as specified in Fed-Std-102 and shall be Level A, B, or C as specified (see Paragraph 6.2).

5.3 Marking of shipments.- Unit packages and exterior shipping containers shall be marked in accordance with Standard MIL-STD-129. The nomenclature shall be as shown in the following example:

Console, TRACON/RAPCON Modular
Separator Post Module

5.4 Storage of materials.- Structural materials, either plain or fabricated, shall be stored above the ground upon platforms, skids or other supports. Material shall be kept free from dirt, grease, and other foreign matter and shall be protected from corrosion.

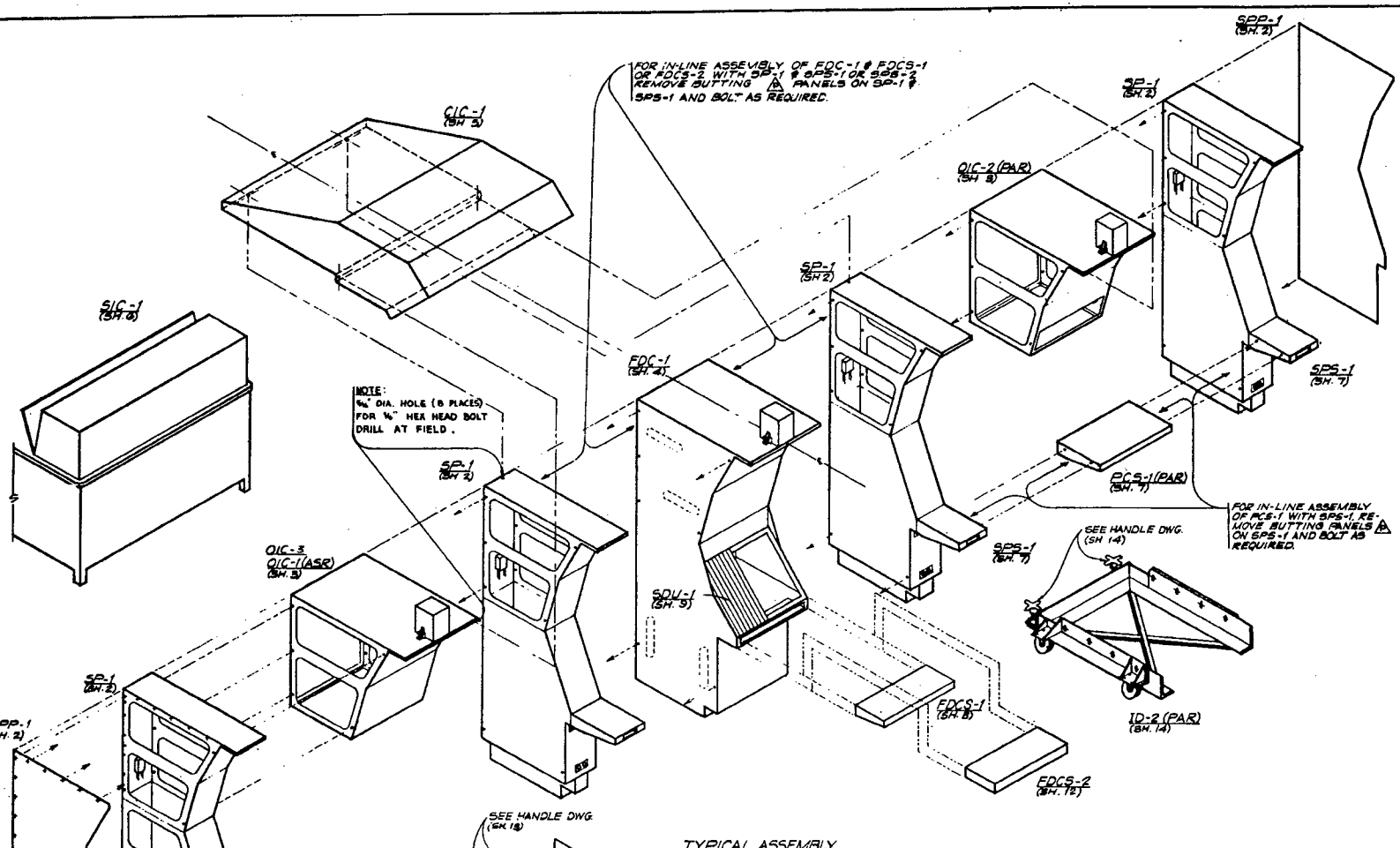
6. NOTES.- The following notes are for procurement information only and are in part of the specification requirements.

6.1 Intended Use.- The Air Traffic Control Console consisting of panels, assemblies and subassemblies is designed for installation in FAA TRACONs, USAF RAPCONs and where possible USN RATCF's. When installed, the console will provide mounting space for displays, switches and ancillary equipment required by the radar operator. These consoles are designed for use with ASR-4, -5, and -6, FPN-47 and FPN-16 (PAR) radar indicators. The following moudlar units are intended for use with the FPN-16 (PAR) indicators OIC-2, PCS-1 and ID-2 (see Paragraph 3.2). The OIC-3 unit is to be used for ARTS II displays only. At the locations where the ARTS III, Type 1 radar and ARTS II displays will be used, the SPS-2 and FDCS-2 should be provided in lieu of the SPS-1 and FDCS-1 and indicator dollies will not be required.

6.2 Ordering data.- The level of preservation, packaging and packing required should be specified in the contract or invitation for bids (see Paragraph 5.1 and 5.2).

* * * * * * *

ATTACH: Drawings D-6064-1 thru 14.



FOR IN-LINE ASSEMBLY OF FDC-1 & FDCS-1 OR FDCS-2 WITH SP-1 & SPS-1 OR SDS-2 REMOVE BUTTING (A) PANELS ON SP-1 & SPS-1 AND BOLT AS REQUIRED.

NOTE: ¼" DIA. HOLE (8 PLACES) FOR ¼" HEX HEAD BOLT DRILL AT FIELD.

FOR IN-LINE ASSEMBLY OF PCS-1 WITH SPS-1, REMOVE BUTTING PANELS (A) ON SPS-1 AND BOLT AS REQUIRED.

NOTE: WHEN SP-1 IS UTILIZED ON THE END OF A IN-LINE MODULAR CONSOLE ARRANGEMENT, THE OUTSIDE PVC SIDE PANEL IS REMOVED AND SPP-1 IS SUBSTITUTED AT THE END CLOSURE PANEL.

TYPICAL ASSEMBLY
NOT TO SCALE

FOR ARTS III TYPE I INDICATOR & ARTS II INDICATOR USE SPS-2 & FDCS-2.
INDICATOR DOLLIES NOT REQUIRED.

GENERAL NOTES

1. For clarity of structural arrangement panels are called out but not shown on module elevations. On elevations or part of elevation where panels are not called out, panels are not required.
2. All dimensions are work point to work point. Lineal dimensional tolerances are ± 1/32" above indicated and all other ± 1/16". Tolerances are not cumulative. Those areas where metal is removed to reduce weight in structural framing need not adhere to these above tolerances.
3. All angles are given to the nearest inch rise per 12" run to facilitate shop fabrication layout. Angular dimensions tolerances are ± 1/16" per 12" run.
4. Panels marked (A) are # 5 (.1875) gauge sheet aluminum cut and machined to fit console module frames as shown and noted in typical sections.
5. (A) Indicates hot or cold sheet steel; number indicates # gauge. Panels marked (A) are # 12 gauge sheet steel cut, bent, and machined to fit console modules frames as shown and noted in typical sections.
6. Panels marked (A) are 1/8" thick sheet polyvinyl chloryde (PVC) plastic.
7. Remove all burrs and break all sharp edges.
8. Be hems required on metal panels, all edges must be smooth and free of burrs and fit within tolerances as shown.

REVISIONS BY	REV. LTR.	DATE	DESCRIPTION	CHECKED	APPROVED

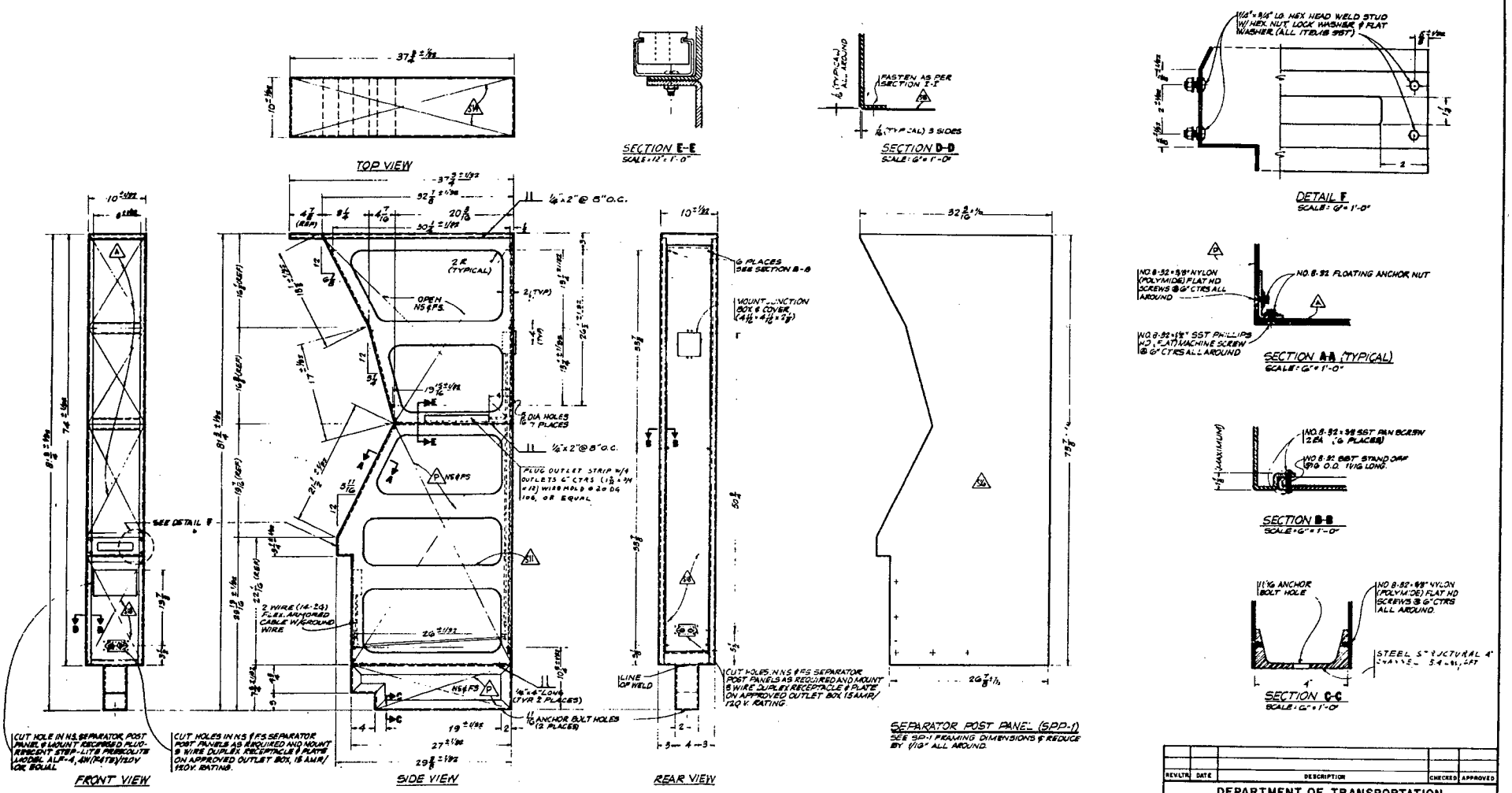
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C. 20001

TRACON/RAPCON MODULAR CONSOLE

TYPICAL ASSEMBLY

	SUBMITTED BY	APPROVED BY
	CHIEF, TERMINAL FACILITIES BR., AAF-310	CHIEF, ENVIRONMENTAL SYS DIV., AAF-300
DESIGNED BY C.B.	ISSUED BY: AIRWAY FACILITIES SERVICE	DATE- 1-15-76
DRAWN BY		DRAWING NO. D-6064-1
CHECKED BY		REV. LTR.

SUPERSEDES E-5861 SERIES



SEE GENERAL NOTES ON SHEET 1

SUPERSEDES E-5861 SERIES

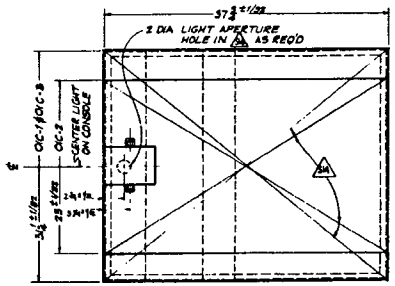
REVLTR	DATE	DESCRIPTION	CHECKED	APPROVED

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C. 20591

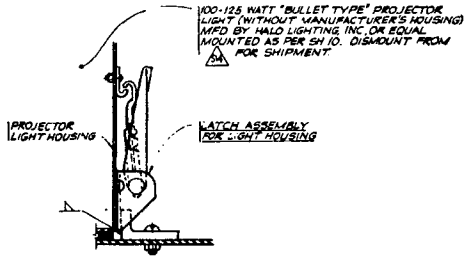
SEPARATOR POST & PANEL
(SP-1 & SPP-1)

REVIEWED BY	SUBMITTED BY	APPROVED BY
	CHIEF, TERMINAL FACILITIES BR., AAF-510	CHIEF, ENVIRONMENTAL SYS. DIV., AAF-500

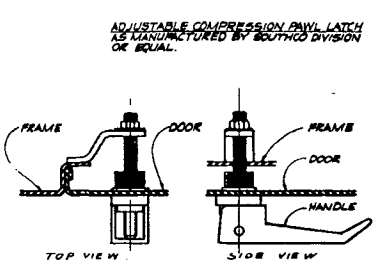
DESIGNED BY	ISSUED BY	DATE	REV. LTR
C.G.	AIRWAY FACILITIES SERVICE	1-15-76	
DRAWN BY		DRAWING NO.	
CHECKED BY R.M.H.		D-6064-2	



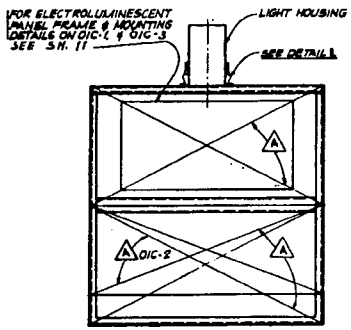
TOP VIEW



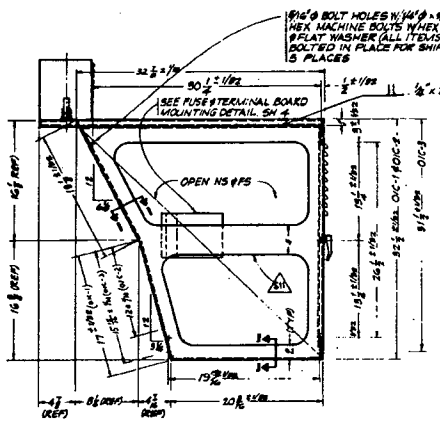
DETAIL L
SCALE: 12" = 1'-0"



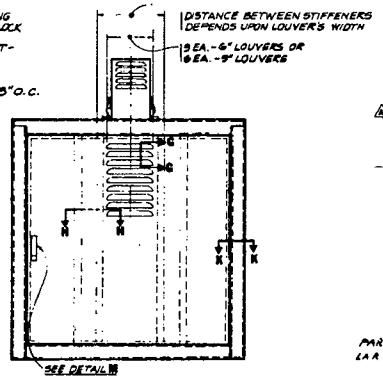
DETAIL M
SCALE: 3" = 1"



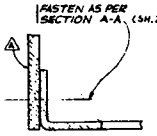
FRONT VIEW



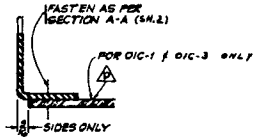
SIDE VIEW



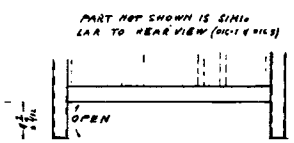
REAR VIEW
(OIC-1 & OIC-3)



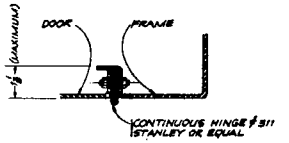
SECTION I-I
SCALE: 12" = 1'-0"



SECTION I-I
SCALE: 12" = 1'-0"

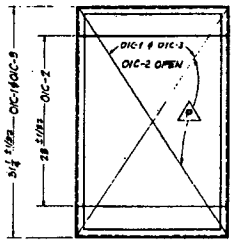


REAR VIEW
(OIC-2 ONLY)

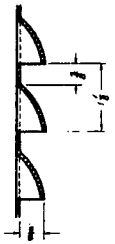


SECTION M-M (DOOR HINGE)
SCALE: 3" = 1"

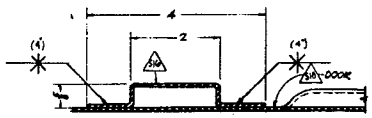
OVERHEAD INSTRUMENT CONSOLE (OIC-1)
OVERHEAD INSTRUMENT CONSOLE (OIC-2)
OVERHEAD INSTRUMENT CONSOLE (OIC-3)
} SHOP WELD - FIELD BOLT



BOTTOM VIEW



SECTION G-G (LOUVERS)
SCALE: 12" = 1'-0"
(TYPICAL)



SECTION H-H (DOOR STIFFENER)
SCALE: 3" = 1"
(TYPICAL)

SEE GENERAL NOTES ON SHEET 1

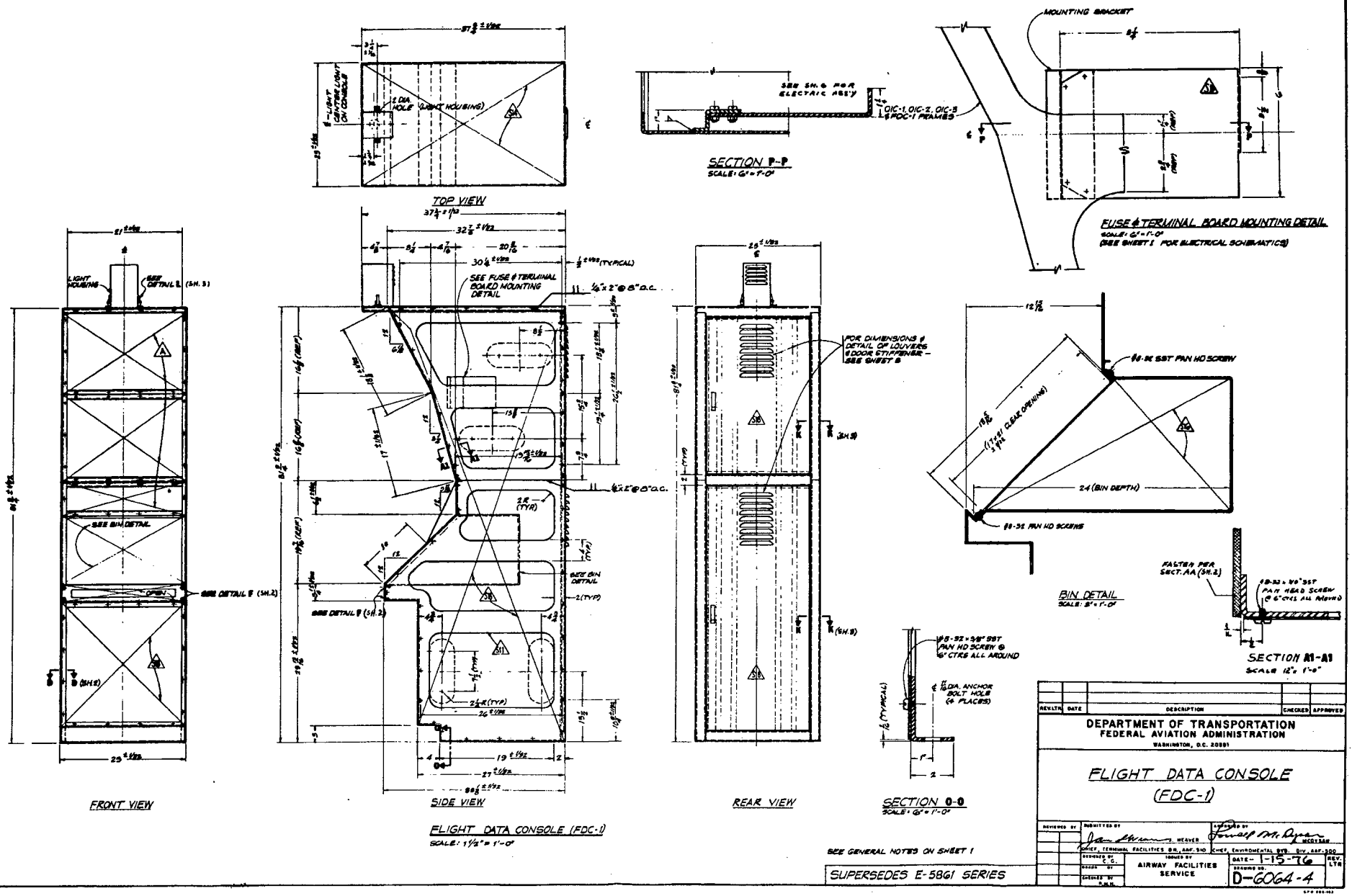
SUPERSEDES E-5861 SERIES

REV. LTR.	DATE	DESCRIPTION	CHECKED	APPROVED

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C. 20591

OVERHEAD INSTRUMENT CONSOLE
OIC-1, OIC-2 & OIC-3

REVIEWED BY	SUBMITTED BY	APPROVED BY
	J. WEAVER, CHIEF, TERMINAL FACILITIES BR., AAF-310	F. W. McDYAN, CHIEF, ENVIRONMENTAL SYS. DIV., AAF-300
DESIGNED BY: CG	ISSUED BY: AIRWAY FACILITIES SERVICE	DATE: 1-15-76
DRAWN BY:		DRAWING NO.: D-6064-3
CHECKED BY: RHH		REV. LTR.



SEE GENERAL NOTES ON SHEET 1

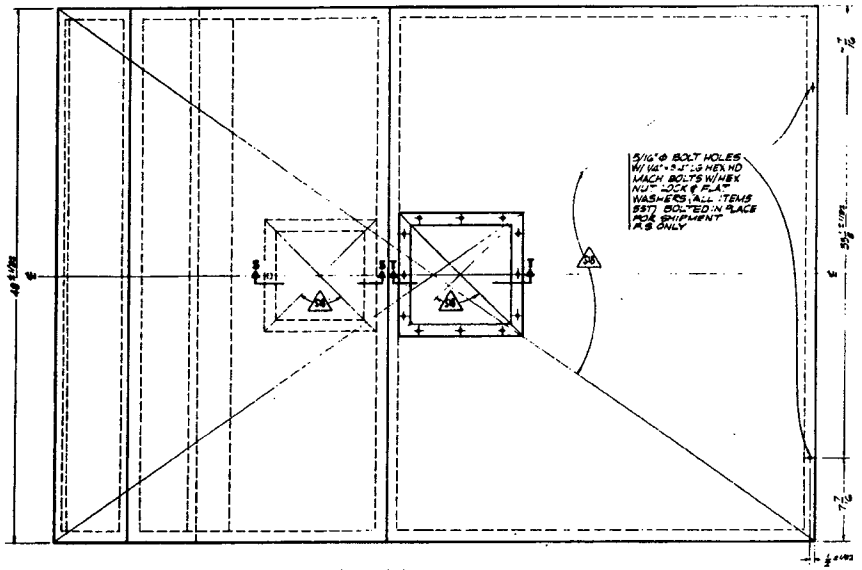
SUPERSEDES E-5861 SERIES

REV. LTR	DATE	DESCRIPTION	CHECKED	APPROVED

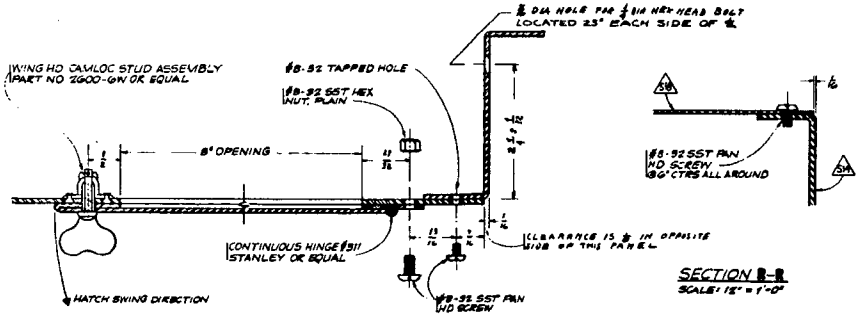
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C. 20591

FLIGHT DATA CONSOLE (FDC-1)

REVIEWED BY	SUBMITTED BY	APPROVED BY
	J. W. WEAVER, CHIEF, TERMINAL FACILITIES BR., AAF-510	HOWARD M. APPLEMAN, CHIEF, ENVIRONMENTAL SYS. DIV., AAF-500
DESIGNED BY C. C.	ISSUED BY AIRWAY FACILITIES SERVICE	DATE 1-15-76
DRAWN BY		DRAWING NO. D-6064-4
CHECKED BY R. M. B.		REV. LTR

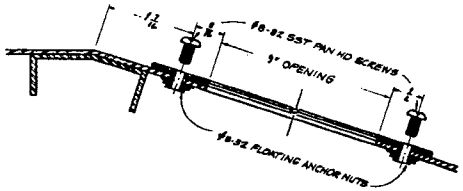


TOP VIEW
SCALE: 3/16"=1"

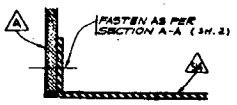


SECTION S-S
SCALE: 12"=1'-0"

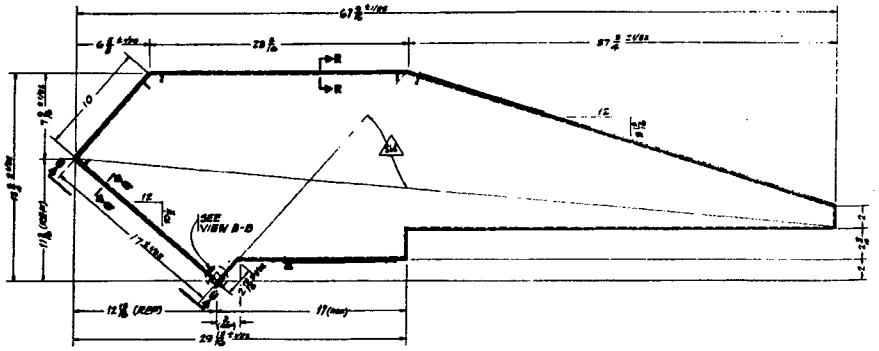
SECTION B-B
SCALE: 12"=1'-0"



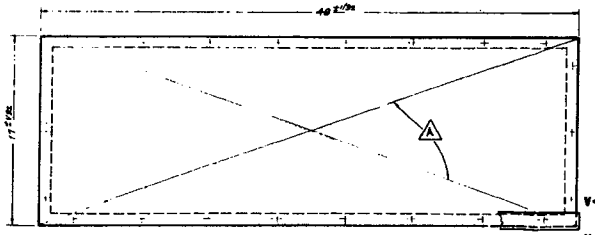
SECTION T-T
SCALE: 12"=1'-0"



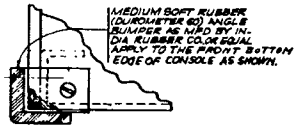
SECTION Q-Q
SCALE: 12"=1'-0"



SIDE VIEW
SCALE: 3/16"=1"



VIEW U-U
SCALE: 3/16"=1"



VIEW V-V
SCALE: 12"=1'-0"

COORDINATOR INSTRUMENT CONSOLE (CIC-1)

SEE GENERAL NOTES ON SHEET 1

SUPERSEDES E-5861 SERIES

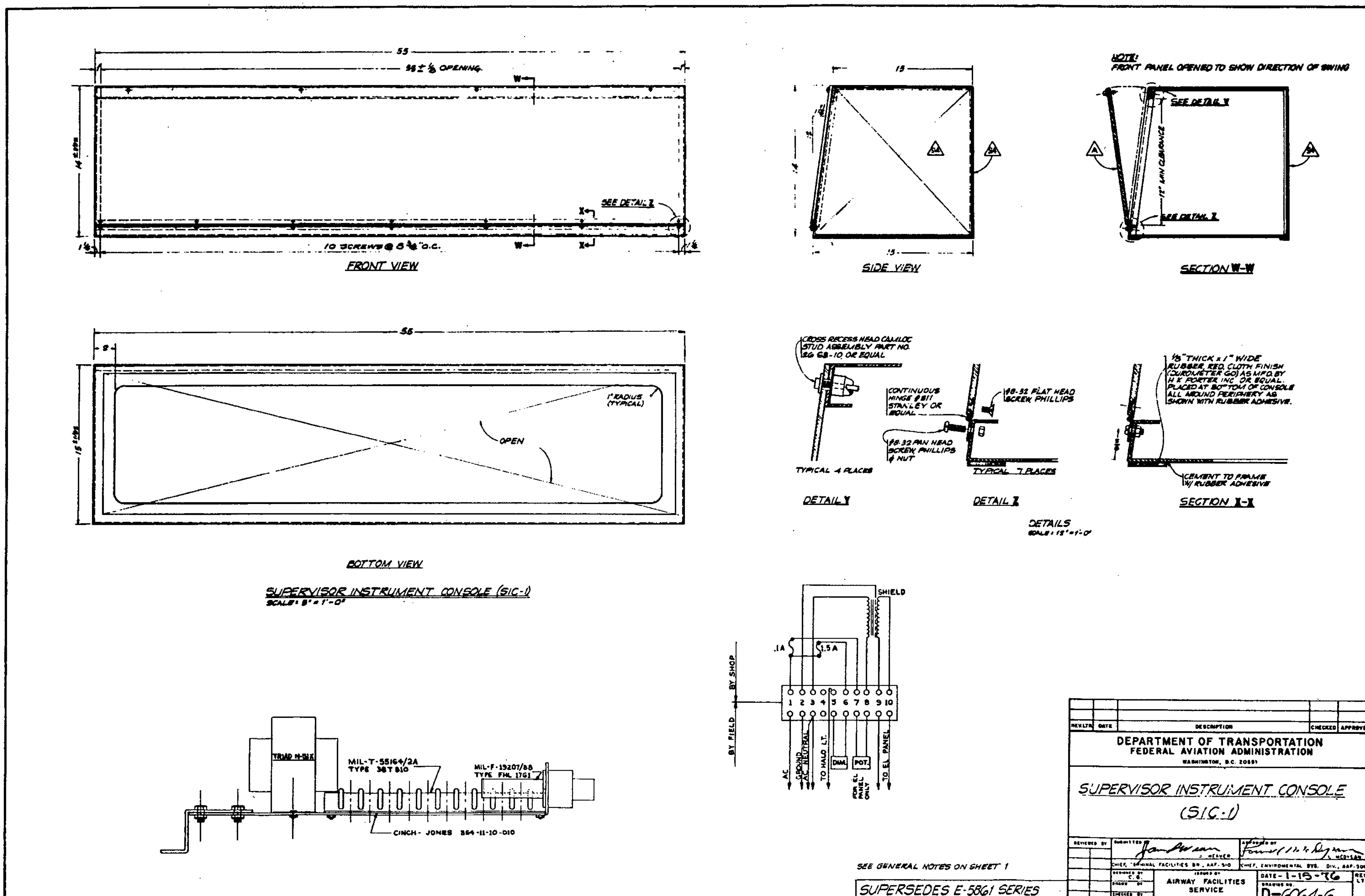
REV. LTR	DATE	DESCRIPTION	CHECKED	APPROVED

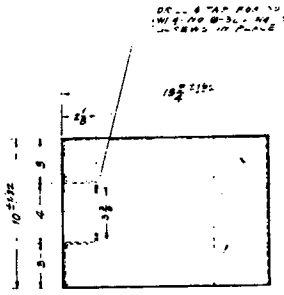
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C. 20591

COORDINATOR INSTRUMENT CONSOLE (CIC-1)

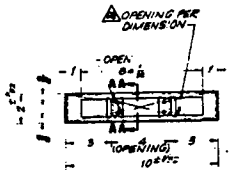
REVIEWED BY	SUBMITTED BY	APPROVED BY
	J. WEAVER, CHIEF, TERMINAL FACILITIES BR., AAF-510	L. MCVISH, CHIEF, ENVIRONMENTAL STS. DIV., AAF-500

DESIGNED BY	ISSUED BY	DATE	REV. LTR
C.S.	AIRWAY FACILITIES SERVICE	1-15-76	
DRAWN BY		DRAWING NO.	
D.M.H.		D-6064-5	

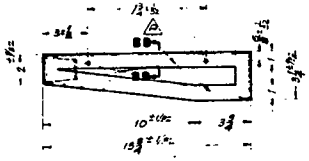

FRONT VIEW
55
55 ± 1/8 OPENING
10 SCREWS @ 5 3/4" O.C.
SEE DETAIL Z
SIDE VIEW
NOTE:
FRONT PANEL OPENED TO SHOW DIRECTION OF SWING
SEE DETAIL Y
12" MIN CLEARANCE
SEE DETAIL Z
SECTION W-W
BOTTOM VIEW
56
1" RADIUS (TYPICAL)
OPEN
SUPERVISOR INSTRUMENT CONSOLE (SIC-1)
CROSS RECESS HEAD CAMLOC STUD ASSEMBLY PART NO. 2G 68-10 OR EQUAL
TYPICAL 4 PLACES
DETAIL Y
CONTINUOUS HINGE #311 STANLEY OR EQUAL
#8-32 FLAT HEAD SCREW PHILLIPS
#8-32 PAN HEAD SCREW PHILLIPS & NUT
TYPICAL 7 PLACES
DETAIL Z
DETAILS
1/8" THICK x 1" WIDE RUBBER, RED CLOTH FINISH (DUROMETER 60) AS MFD. BY H K PORTER INC OR EQUAL. PLACED AT BOTTOM OF CONSOLE ALL AROUND PERIPHERY AS SHOWN WITH RUBBER ADHESIVE.
CEMENT TO FRAME W/ RUBBER ADHESIVE
SECTION X-X
TRIAD N-51X
MIL-T-55164/2A TYPE 38T810
MIL-F-19207/88 TYPE FHL 17G1
CINCH-JONES 384-11-10-010
SHIELD
.1A
1.5A
BY FIELD
BY SHOP
1 2 3 4 5 6 7 8 9 10
AC
GROUND
AC NEUTRAL
TO HALO LT.
DIM.
POT.
FOR EL PANEL ONLY
TO EL PANEL
SEE GENERAL NOTES ON SHEET 1
SUPERSEDES E-5861 SERIES
REV. LTR
DATE
DESCRIPTION
CHECKED
APPROVED
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C. 20591
SUPERVISOR INSTRUMENT CONSOLE
(SIC-1)
REVIEWED BY
SUBMITTED
APPROVED BY
AIRWAY FACILITIES SERVICE
DATE-1-15-76
D-6064-6



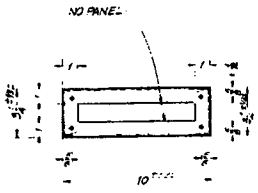
TOP VIEW



FRONT VIEW

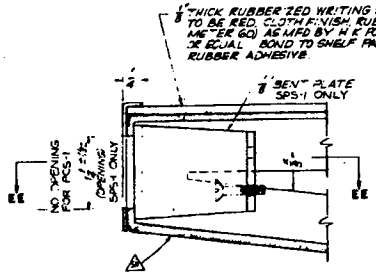


SIDE VIEW

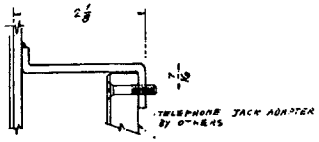


REAR VIEW

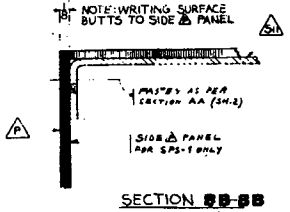
SEPARATOR POST SHELF (SPS-1)
SCALE: 2" = 1'-0"



SECTION AA-AA
SCALE: 12" = 1'-0"



SECTION EE-EE (SPS-1 ONLY)
SCALE: 12" = 1'-0"



SECTION BB-BB
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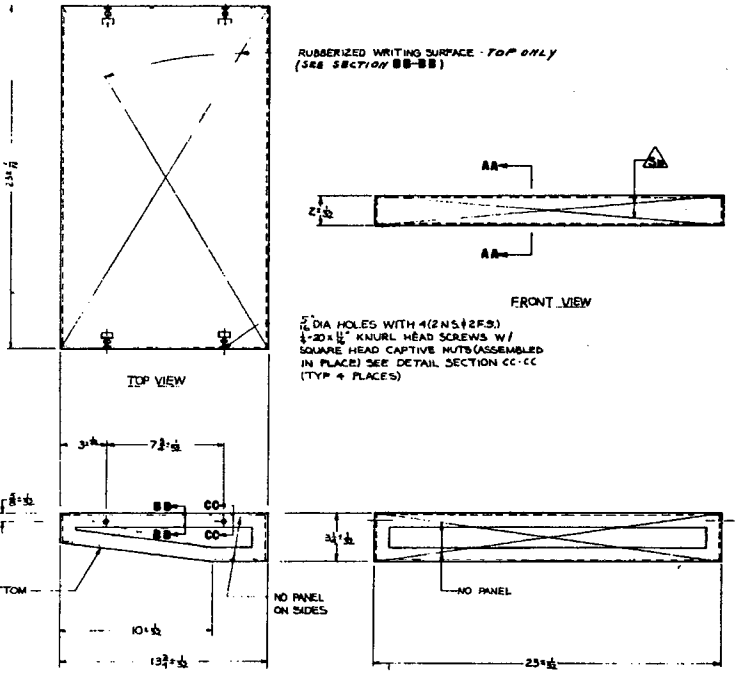
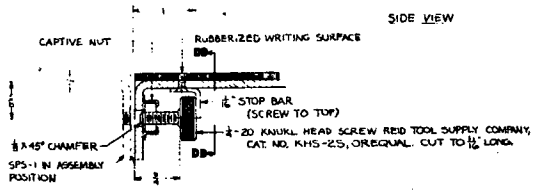


TOP VIEW

FRONT VIEW

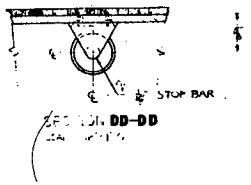
SIDE VIEW

REAR VIEW



SECTION CC-CC
SCALE: 12" = 1'-0"

PAR CONSOLE SHELF (PCS-1)
SCALE: 3" = 1'-0"



SECTION DD-DD
SCALE: 12" = 1'-0"

SEE GENERAL NOTES ON SHEET 1

SUPERSEDES E 5361 SERIES

REV. LTR	DATE	DESCRIPTION	CHECKED	APPROVED

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C. 20591

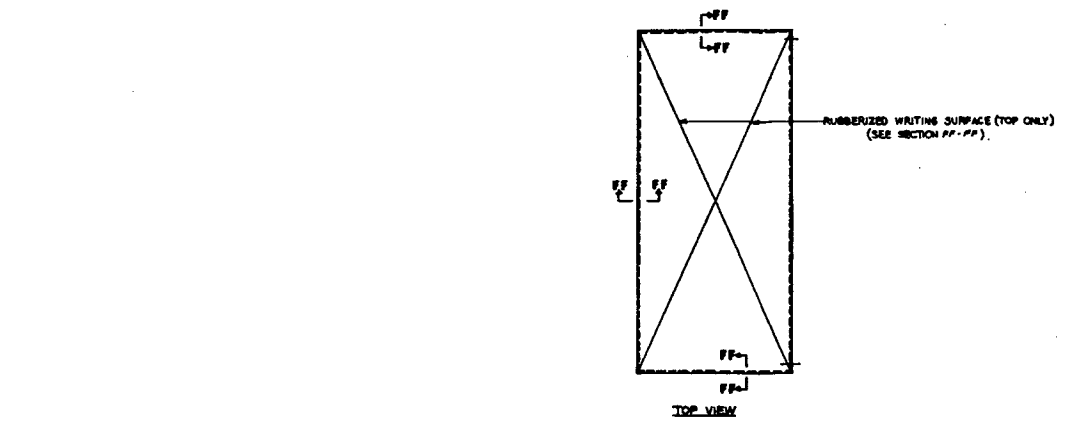
SHELF, SEPARATOR POST AND PAR CONSOLE (SPS-1 & PCS-1)

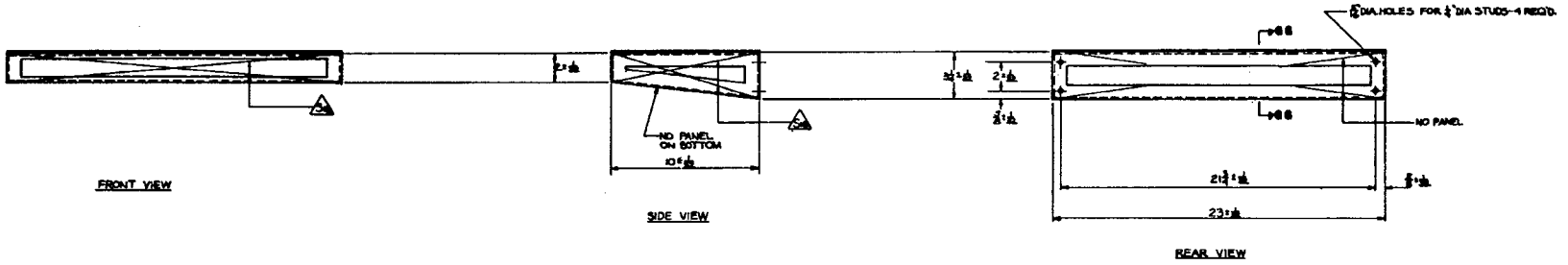
REVIEWED BY	SUBMITTED BY	APPROVED BY
	CHIEF, TERMINAL FACILITIES DIV., AAF-310	CHIEF, ENVIRONMENTAL STD. DIV., AAF-300

DRAWN BY C.G.
TRACED BY
CHECKED BY R.M.M.

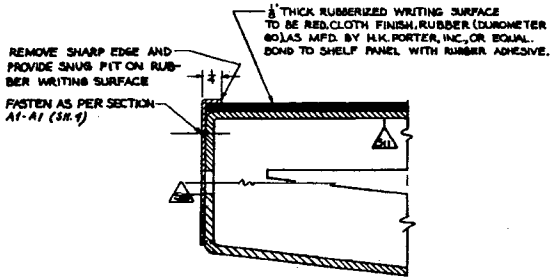
ISSUED BY AIRWAY FACILITIES SERVICE

DATE - 1-15-76
DRAWING NO. D-6064-7
REV. LTR

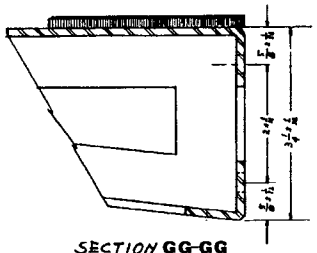




FLIGHT DATA CONSOLE SHELF (FDCS-1)
SCALE: 3"=1'-0"



SECTION FF-FF
SCALE: 12"=1'-0"



SECTION GG-GG
SCALE 12" = 1'-0"

SEE GENERAL NOTES ON SHEET 1

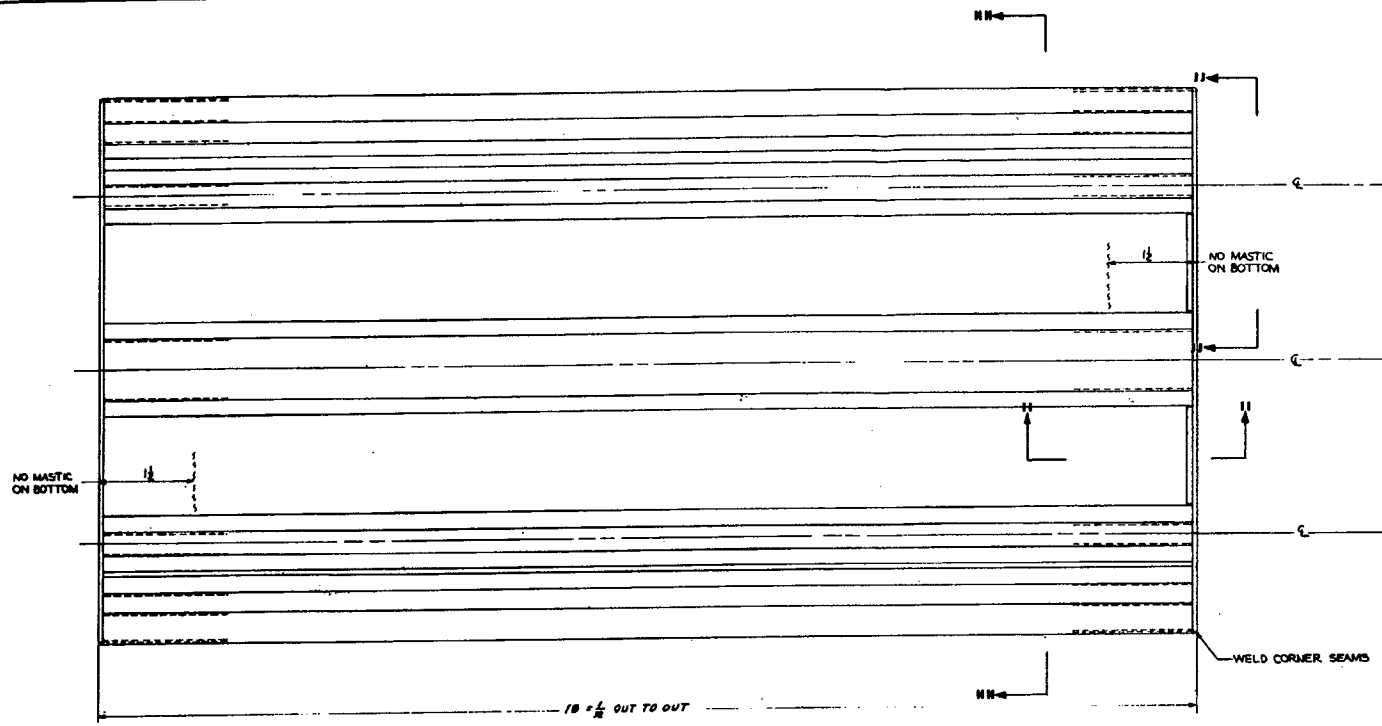
SUPERSEDES E-5861 SERIES

REV. LTR	DATE	DESCRIPTION	CHECKED	APPROVED

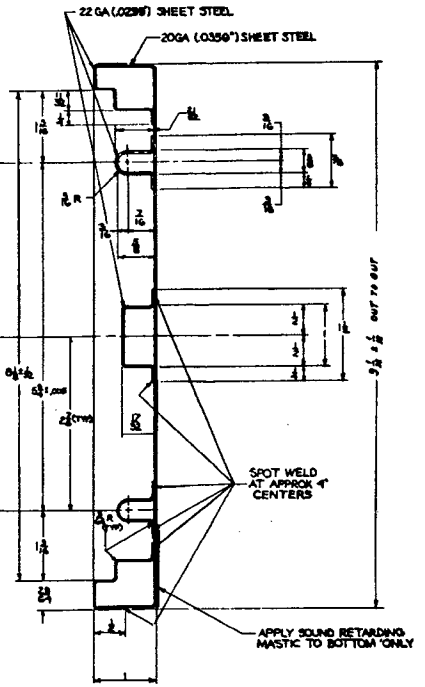
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C. 20591

SHELF, FLIGHT DATA CONSOLE (FDCS-1)

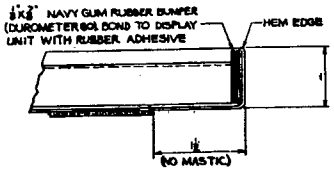
REVIEWED BY	SUBMITTED BY	APPROVED BY
	J. WEAVER, CHIEF, TERMINAL FACILITIES DIV. AAF-510	CHIEF, ENVIRONMENTAL SYS. DIV. AAF-500
DESIGNED BY CA	ISSUED BY AIRWAY FACILITIES SERVICE	DATE: 1-15-76
DRAWN BY		DRAWING NO. D-6064-8
TRACED BY		REV. LTR
CHECKED BY PMH		



STRIPHOLDER DISPLAY UNIT SDU-1
SCALE: 12"=1'-0"



SECTION HH-HH
SCALE: 12"=1'-0"



SECTION II-II
SCALE: 12"=1'-0"

SECTION JJ-JJ
SCALE: 12"=1'-0"

NOTE: FINISH

THE SURFACES SHOWN PHANTOM ABOVE SHALL BE PRIMED WITH DUPONT "TEFLON" NO 850-201 AND FINISHED WITH DUPONT "TEFLON" BISCUIT COLOR ENAMEL NO 855-108 TOTAL DRY THICKNESS NOT TO EXCEED 1.5 MILS.

SEE GENERAL NOTES ON SHEET

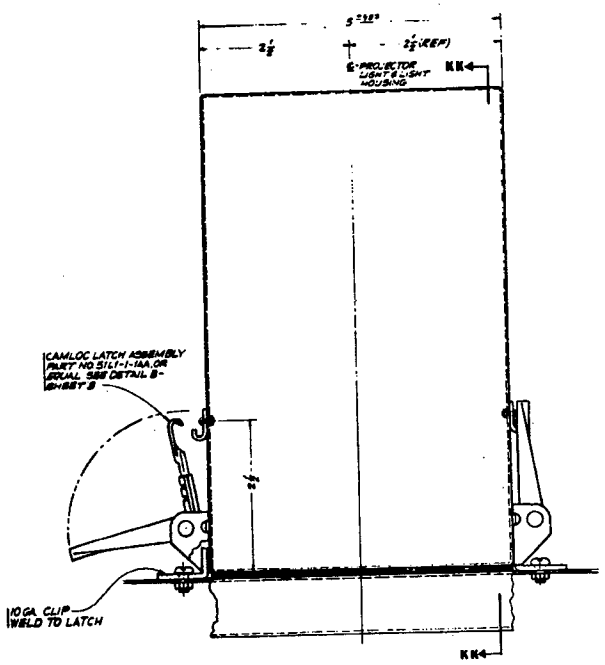
SUPERSEDES E-5861 SERIES

REVISION	DATE	DESCRIPTION	CHECKED	APPROVED

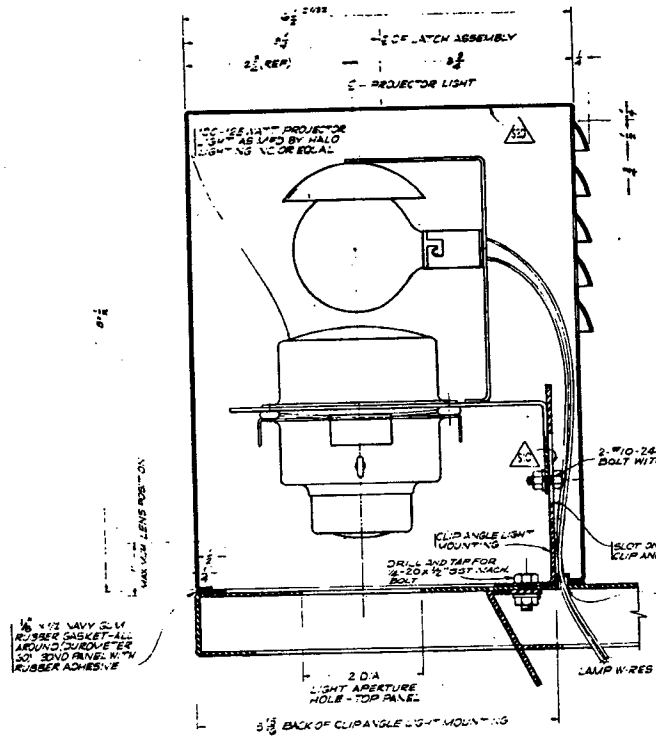
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C. 20591

STRIPHOLDER DISPLAY UNIT SDU-1

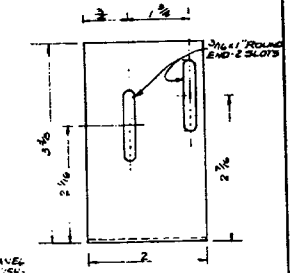
REVIEWED BY	SUBMITTED BY	APPROVED BY
	J. WEAVER	J. MORTHAM
	CHIEF, TERMINAL FACILITIES DIV., AAT-310	CHIEF, ENVIRONMENTAL STD., DIV., AAT-500
APPROVED BY C.S.	ISSUED BY AIRWAY FACILITIES SERVICE	DATE 1-15-76
DRAWN BY		DRAWING NO. D-6064-9
CHECKED BY D.M.W.		REV. LTR



FRONT ELEVATION
SCALE: 12" = 1'-0"



SECTION KK-KK
SCALE: 12" = 1'-0"



PROJECTOR LIGHT HOUSING & LIGHT MOUNTING DETAIL

SEE GENERAL NOTES ON SHEET 1

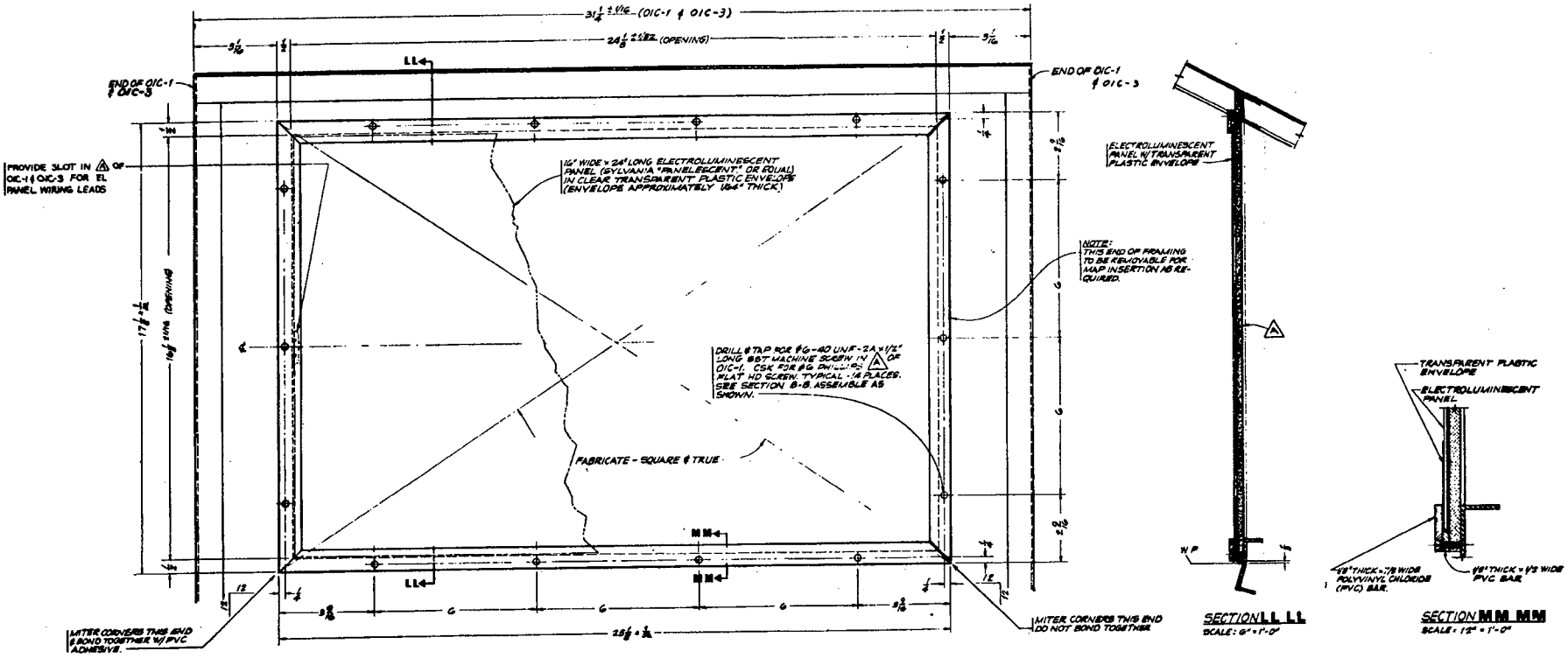
SUPERSEDES E-5861 SERIES

REV. LTR.	DATE	DESCRIPTION	CHECKED	APPROVED

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C. 20591

PROJECTOR LIGHT

REVIEWED BY	SUBMITTED BY J. WEAVER, CHIEF, TERMINAL FACILITIES BR., AAF-510	APPROVED BY L. MCDISSE, CHIEF, ENVIRONMENTAL STD., DIV., AAF-500	
DESIGNED BY C.G.	ISSUED BY AIRWAY FACILITIES SERVICE	DATE 1-15-76	REV. LTR.
DRAWN BY		DRAWING NO. D-6064-10	
CHECKED BY R.M.K.			



ELECTROLUMINESCENT FRAME & MOUNTING
SCALE: 6" = 1'-0"

SECTION LL LL
SCALE: 6" = 1'-0"

SECTION MM MM
SCALE: 12" = 1'-0"

SEE GENERAL NOTES ON SHEET 1

SUPERSEDES E-5861 SERIES

REV. LTR	DATE	DESCRIPTION	CHECKED	APPROVED

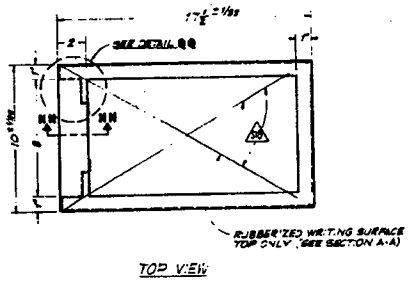
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C. 20591

ELECTROLUMINESCENT PANEL

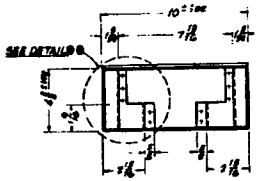
REVIEWED BY	SUBMITTED BY	APPROVED BY
	J. WEAVER CHIEF, TERMINAL FACILITIES BR., AAF-510	L. HORTMAN CHIEF, ENVIRONMENTAL SYS. DIV, AAF-500

DESIGNED BY	ISSUED BY	DATE	REV. LTR
C.S.	AIRWAY FACILITIES SERVICE	1-15-76	

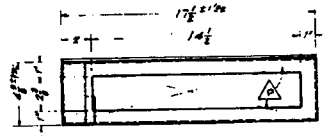
DRAWN BY	CHECKED BY	DRAWING NO.
	C.M.M.	D-6064-11



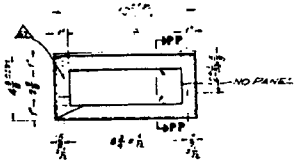
TOP VIEW



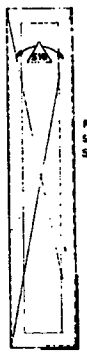
FRONT VIEW

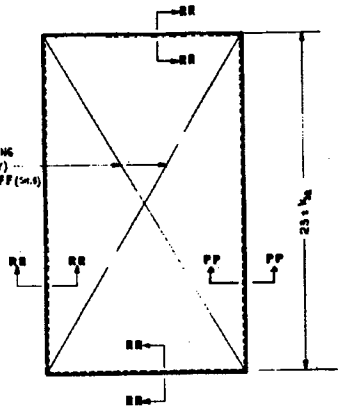


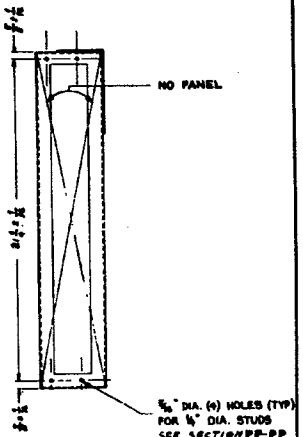
SIDE VIEW

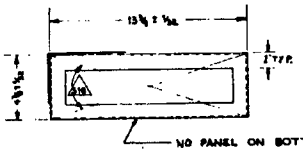


REAR VIEW

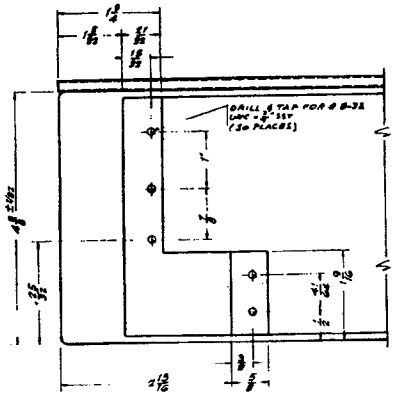




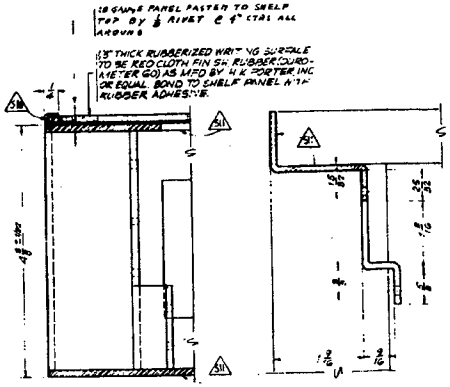




FLIGHT DATA CONSOLE SHELF (FDCS-2)



DETAIL QQ

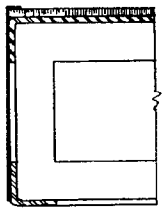


SECTION NN-NN

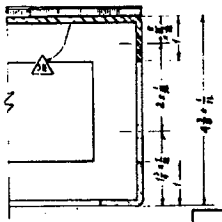
DETAIL QQ

SEPARATOR POST SHELF (SPS-2)

DETAIL NOT CALLED OUT SAME AS SHOWN IN SECTION PP-PP (SH. 6)



SECTION RR-RR
SCALE 3/4" = 1"



SECTION PP-PP
SCALE 3/4" = 1"

REVISIONS				
REV LTR	DATE	DESCRIPTION	CHECKED	APPROVED

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C. 20591

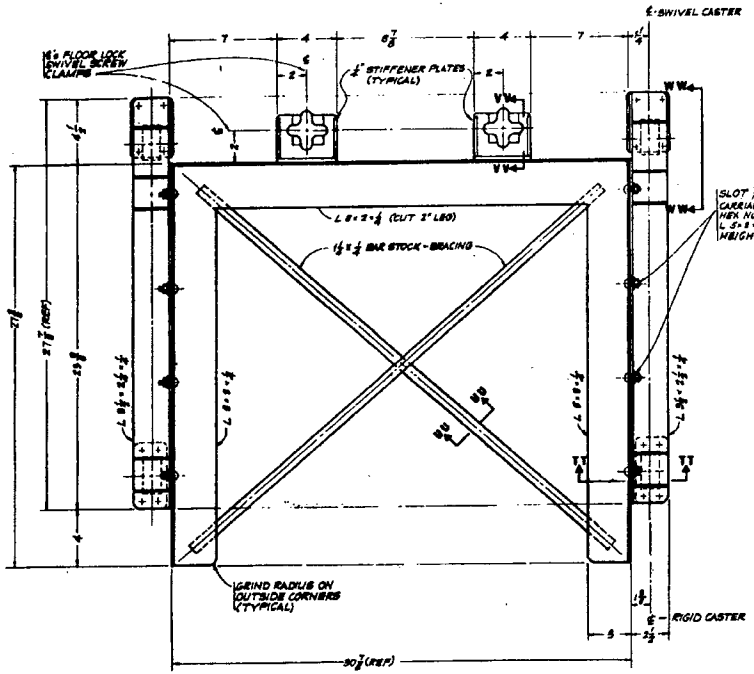
SHELF - SEPARATOR POST & FLIGHT DATA CONSOLE (SPS-2 & FDCS-2)

REVIEWED BY	SUBMITTED BY	APPROVED BY
	J. WEAVER	J. MCKEAN
CHIEF, TERMINAL FACILITIES DIV. AAF-340	CHIEF, ENVIRONMENTAL BR'S. DIV. AAF-300	

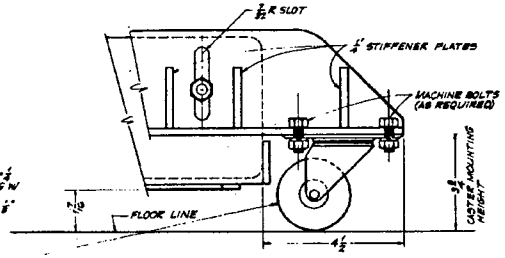
DESIGNED BY	ISSUED BY	DATE	REV. LTR
C.G.	AIRWAY FACILITIES SERVICE	1-15-76	
DRAWN BY		DRAWING NO.	
C.G.		D-6064-12	
CHECKED BY			

SEE GENERAL NOTES ON SHEET 1

SUPERSEDES E-5861 SERIES

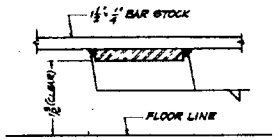


INDICATOR DOLLY ID (WELD) ASR
(2 - SWIVEL & 2 - RIGID CASTERS)
SCALE: 3" = 1'-0"

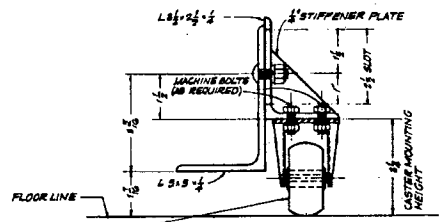


SWIVEL MODEL CASTER (200 LB. CAP) COMPLETE WITH HARD TREAD RUBBER-BEARING WHEELS NO. 24 TO T12 AS FURNISHED BY MC MASTER-CARR SUPPLY CO. OR EQUAL.

VIEW WW-WW
SCALE: 6" = 1'-0"

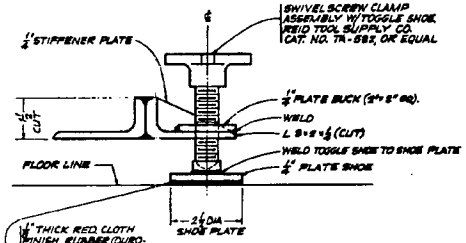


SECTION UU-UU (TYPICAL)
SCALE: 6" = 1'-0"



RIGID MODEL CASTER (200 LB CAP) COMPLETE WITH HARD TREAD RUBBER-ROLLER BEARING WHEELS NO. 24 TO T25 AS FURNISHED BY MC MASTER-CARR SUPPLY CO. OR EQUAL.

SECTION TT-TT (TYPICAL)
SCALE: 6" = 1'-0"



SECTION VV-VV
SCALE: 6" = 1'-0"

SEE GENERAL NOTES ON SHEET 1

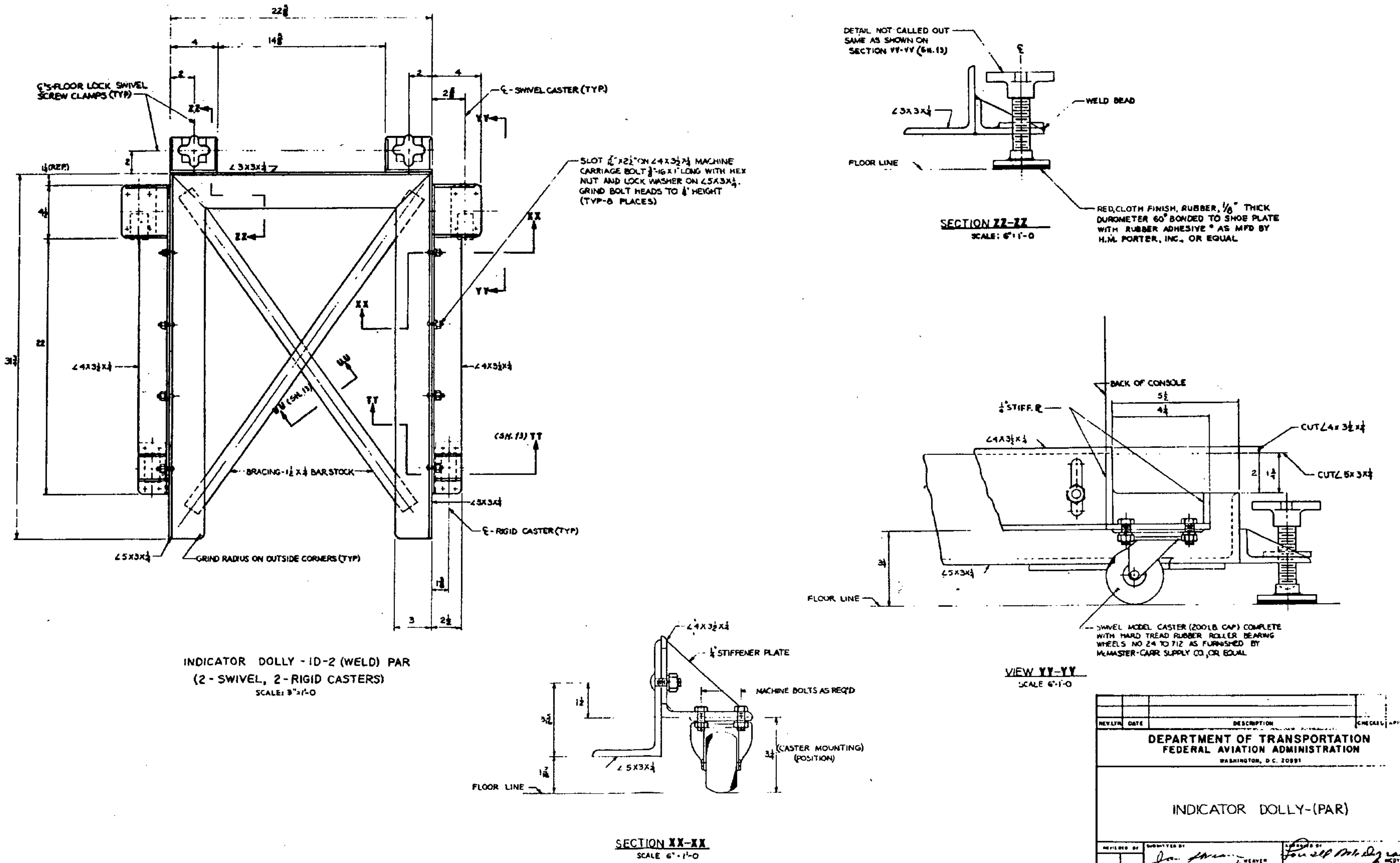
SUPERSEDES E-5861 SERIES

REVLTR	DATE	DESCRIPTION	CHECKED	APPROVED

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C. 20591

INDICATOR DOLLY (ASR)

REVIEWED BY	SUBMITTED BY	APPROVED BY
	CHIEF, TERMINAL FACILITIES DIV. ASF-510	CHIEF, ENVIRONMENTAL SYS. DIV. ASF-500
ENGINEER BY	ISSUED BY	DATE - 1-15-76
DESIGN BY	AIRWAY FACILITIES SERVICE	DRAWING NO. D-6064-13
CHECKED BY O.M.H.		REV. LTR.



SEE GENERAL NOTES ON SHEET 1

SUPERSEDES E-5861 SERIES

REV LTR	DATE	DESCRIPTION	CHECKED	APPROVED

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C. 20591

INDICATOR DOLLY-(PAR)

SUBMITTED BY: J. WEAVER — CHIEF, TERMINAL FACILITIES BR., AAF-310
APPROVED BY: McDUGAN — CHIEF, ENVIRONMENTAL SYS. DIV., AAF-300
AIRWAY FACILITIES SERVICE
DATE 1-15-76
D-6064-14

22068